STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
VA.		x	0000-000-000 SEE TABULATIONS BELOW FOR SECTION NUMBERS	1

City of Lynchburg, Virginia

STADIUM GRASS PARKING

FINAL PLANS
NOVEMBER 1, 2016

MAYOR..... JOAN FOSTER
VICE MAYOR..... TRENEY TWEEDY
CITY MANAGER..... BONNIE SVRCEK
DIRECTOR OF PUBLIC WORKS..... GAYNELLE HART

LEGEND

CITY,TOWN OR VILLAGE
RIGHT OF WAY LINE
FENCE LINE
PROPERTY LINE
EXISTING SHOULDER LINE
WATER LINE
SANITARY SEWER LINE
GAS LINE
ELECTRIC UNDERGROUND CABLE
ELECTRIC OVER HEAD CABLE
OVERHEAD UTILITY CABLE
GUARD RAIL
BASE OR SURVEY LINE
CULVERTS
DROP INLET
TELEPHONE OR POWER POLES
HEDGE
TREES
HEAVY WOODS
WATERS OF THE U.S.

Denotes Existing Contours

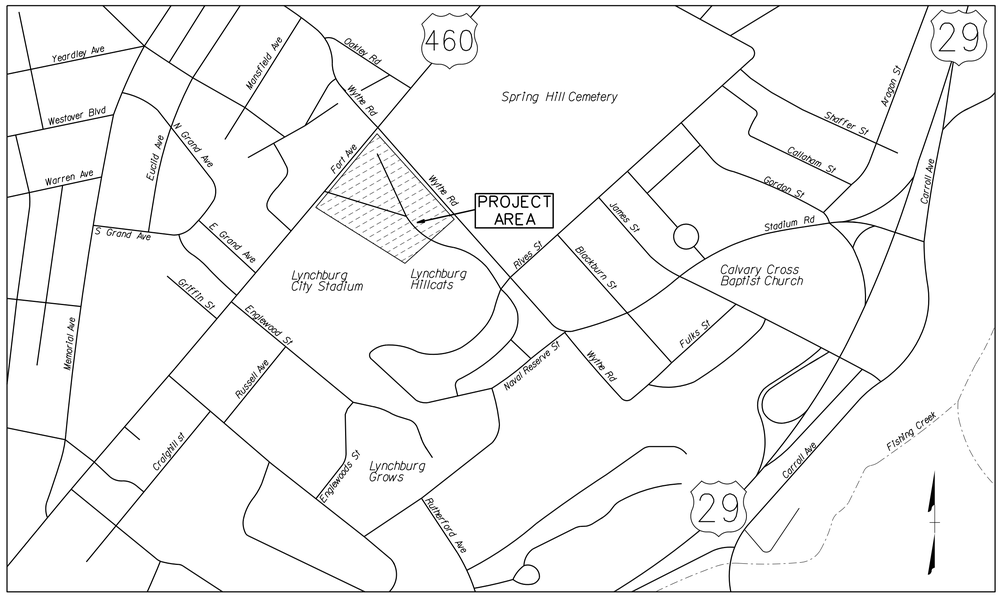
Denotes Proposed Contours

Denotes Proposed Right of Way

Denotes Temporary Construction Easements

Denotes Permanent Drainage Easements

Denotes Permanent Utility Easements



NOT TO SCALE

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE CITY OF LYNCHBURG MANUAL OF SPECIFICATIONS & STANDARD DETAILS, THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS, THE VDOT ROAD AND BRIDGE STANDARDS, THE VDOT WORK AREA PROTECTION MANUAL, THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS OR PLANS, THE MOST STRINGENT SHALL GOVERN.

COMMONWEALTH OF VIRGINIA
DONALD DEBERRY
Lic. No. 17180
11/01/16
PROFESSIONAL ENGINEER

McCORMICK TAYLOR

CONTENTS

REVISED

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

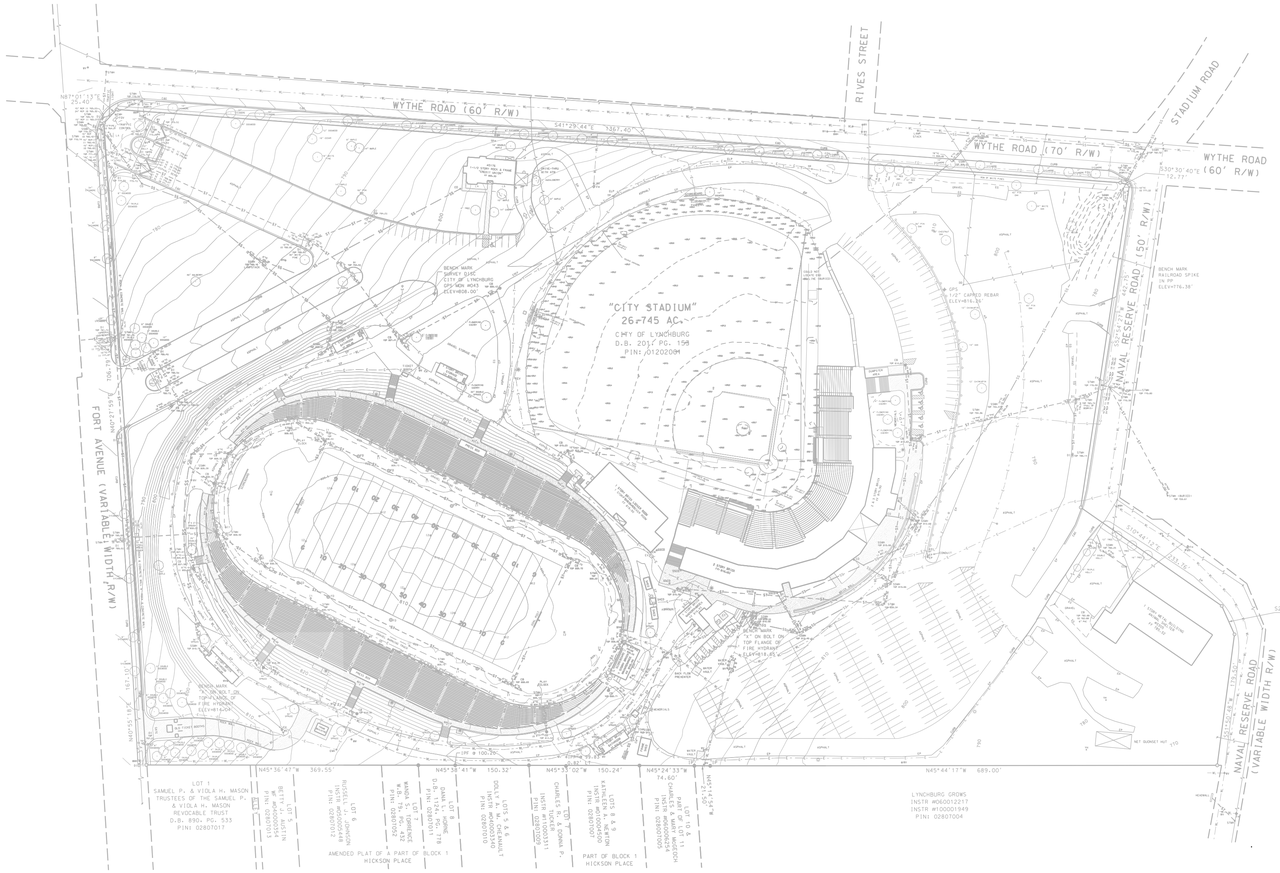
SURVEY ALIGNMENT DATA

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM GRASS PARKING	1A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

LEGEND

	IRON PIN SET
	IRON PIN FOUND (IPF) UNLESS OTHERWISE SHOWN
IP	IRON PIPE FOUND
R/W	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT
EG	EDGE OF GRAVEL
C&G	CURB & GUTTER
FH	FIRE HYDRANT
WM	WATER METER
WV	WATER VALVE
WMH	WATER MANHOLE
	WATER LINE LOCATION
YH	YARD HYDRANT
I1	SMALL IRRIGATION HEAD
I2	LARGE IRRIGATION HEAD
TP	TELEPHONE PEDESTAL
TMH	TELEPHONE MANHOLE
	UNDERGROUND TELEPHONE LINE
EMH	ELECTRIC MANHOLE
EV	ELECTRIC VAULT
ELP	ELECTRIC PEDESTAL
ET	ELECTRIC TRANSFORMER
	STADIUM LIGHTS
	LIGHT POLE
	UTILITY POLE
DD	UTILITY POLE W/DUSK-TO-DAWN LIGHT
	OVERHEAD UTILITIES
	GUY WIRE
	UNDERGROUND ELECTRIC
EM	ELECTRIC METER
SSMH	SANITARY SEWER MANHOLE
	SANITARY SEWER CLEAN-OUT
	SANITARY SEWER LINE
II	INVERT IN
IO	INVERT OUT
STMH	STORM SEWER MANHOLE
DI	DROP INLET
CB	CATCH BASIN
	STORM SEWER LINE
SD	STORM DRAIN
FD	FIELD DRAIN
TC	TERRA COTTA PIPE
PVC	POLYVINYL CHLORIDE PIPE
	FENCE
	OUTFIELD FENCE
	CONCRETE
	GUARDRAIL
B	BOLLARD
	FIBER OPTIC LINE
FOV	FIBER OPTIC VAULT
	GAS LINE
GR	GAS REGULATOR
FP	FLAG POLE
	SPOT ELEVATION
	HANDICAP PARKING SPACE



NOTES:
1. THIS SURVEY HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT NECESSARILY INDICATE ALL ENCUMBRANCES UPON THE TITLE.
2. BY GRAPHIC SCALING ONLY, THIS PROPERTY IS LOCATED IN ZONE "X" (NOT IN A DESIGNATED FLOOD AREA) ACCORDING TO THE F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE CITY OF LYNCHBURG (#5100930043D) DATED JUNE 3, 2008. NO FIELD SURVEYING WAS PERFORMED TO MAKE THIS DETERMINATION.
3. THIS PLAT DOES NOT PURPORT TO ADDRESS THE EXISTENCE, DETECTION OR DELINEATION OF ANY ENVIRONMENTALLY SENSITIVE AREAS OR ANY ENVIRONMENTAL PROBLEMS LOCATED WITHIN THE PERIMETER OF THE PROPERTY SHOWN.
4. THIS PLAT HAS BEEN PREPARED FROM AN ACTUAL FIELD SURVEY DONE AS PER DATE OF THIS PLAT AND THERE ARE NO VISIBLE ENCROACHMENTS OR EASEMENTS EXCEPT AS SHOWN.
5. THIS TOPOGRAPHIC SURVEY OF CITY STADIUM WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF KEVIN A. MERKEY, LS #2217 FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE ORIGINAL DATA WAS OBTAINED ON OCTOBER 24, 2011; AND THAT THIS PLAT MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.
6. HORIZONTAL DATUM - NAD 83
   VERTICAL DATUM - NGVD 29
7. THE RIGHT-OF-WAY/BOUNDARY LINES ALONG WYTHE ROAD AND THE FIRST 442.75 FEET OF NAVAL RESERVE ROAD DO NOT MATCH RECORD INFORMATION IN THE CHAIN OF TITLE. THE LINES SHOWN REPRESENT ENGINEERING DRAWINGS AND ROAD PLANS OF RECORD WITH A FEW MODIFICATIONS TO EXCLUDE ANY ROAD IMPROVEMENTS IN THE BOUNDARY OF THE SURVEYED PROPERTY.
8. TOTAL PARKING SPACES - 286 INCLUDING 15 HANDICAP.
9. BUILDING SET BACKS: FRONT - 30 FEET
   SIDE - 8 FEET

SCALE	PROJECT	SHEET NO.
0 100' 200'	LYNCHBURG STADIUM	1A

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

GENERAL NOTES

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	.	STADIUM GRASS PARKING	2

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

1. Work on this project shall conform to the latest editions of the City of Lynchburg Manual of Specifications & Standard Details, the Virginia Department of Transportation (VDOT) Road and Bridge Specifications, the VDOT Road and Bridge Standards, the VDOT Work Area Protection Manual, the Virginia Erosion and Sediment Control Handbook, and the Virginia Erosion and Sediment Control Regulations. In the event of conflict between any of these standards, specifications or plans, the most stringent shall govern.

2. The location of existing utilities as shown is approximate only. The contractor is responsible for locating all public or private utilities that lie in or adjacent to the construction site. The contractor shall be responsible for repairing, at his expense, all existing utilities damaged during construction. Forty-eight (48) hours prior to any excavation call Miss Utility 1 (800) 552-7001.

3. The Contractor shall verify all existing features shown on the survey and immediately notify the Engineer of any field conditions that differ from the existing features shown on the plans. Work done by the Contractor after his discovery of such discrepancies shall be done at the Contractor's risk.

4. Design features relating to construction or to regulation and control of traffic may be subject to change as deemed necessary by the City of Lyncburg.

5. The grade line denotes top of finished pavement unless shown otherwise on typical sections or plans.

6. The cost of removal and disposal of all existing items located in the areas to be graded, including, but not limited to the following, shall be included in the price bid for Earthwork: curb, curb & gutter, entrances, sidewalk, inlets, pipe, concrete slabs and foundations.

7. The borrow material for this project shall be a minimum CBR 10 or as approved by the Engineer.

8. The horizontal location of all drainage structures shown on these plans is approximate only, with the exception of structures showing specific stations, special design bridges and storm sewer systems.

9. The horizontal location and invert elevations shown for proposed culverts and storm sewer outfall pipes are based on existing survey data and required design criteria. If during construction, it is found that the horizontal location or invert elevations shown on plans differ significantly from the horizontal location or elevations of the stream or swale in which the culvert or storm sewer outfall pipe is to be placed, the Contractor shall confer with, and get approval from, the Engineer before installing the culvert or storm sewer outfall pipe.

10. The "H" dimension shown on plans for drop inlets and junction boxes and the "L.F." dimensions shown for manholes are for estimating purposes and are based on the proposed invert elevations shown for the structure and the anticipated top (rim) elevation based on existing or proposed finished grade. The actual "H" or "L.F." dimensions are to be determined by the contractor from field conditions.

11. All pipe on this project shall be concrete. For strength, sheet thickness, or class designation; available sizes; height of cover limitations; and other restrictions for a particular pipe type or height cover, see applicable sections of the VDOT Road and Bridge Standards PC-1.

12. Where open joint pipe is to be used, no joint shall be opened a distance exceeding 25% of the spigot length. Sealing of the pipe joint shall be in accordance with Section 302 of the applicable VDOT Road and Bridge Specifications.

13. A pipe joint length different from that stated on the plans may be used. An adjustment in the percentage of open joint (not to exceed 25% of the spigot length) or amount of bevel shall be made that will obtain the radius stated on the plans. Extra payment for this adjustment will not be allowed. The proposed adjustment shall be approved by the Engineer prior to installation of the pipe line.

14. The proposed riprap may be omitted by the Engineer if the slope designated for placement of riprap is found to be comprised of solid rock or closely consolidated boulders with soundness, size and weight equal to, or exceeding, the specifications for proposed riprap.

15. All existing drainage facilities labeled "To Be Abandoned" shall be left in place, backfilled and plugged in accordance with the VDOT Road and Bridge Standard PP-1. The cost incidental to this and the Flowable Backfill shall be included in the contract price for other items.

16. Existing drainage facilities being utilized as a part of the drainage system, and designated on the plans "To Be Cleaned Out" shall be cleaned as directed by the Engineer. The cost incidental to this shall be included in the contract price for other items.

17. Proposed drop inlets with a height (H) less than the standard minimum shown in the VDOT Road and Bridge Standards shall be considered and paid for as Standard Drop Inlets for the type specified.

18. All pavement, stone, base, and saw cut required to install the new curbing shall be paid as incidental to the curb cost.

19. Clearing and grubbing shall be confined to those areas needed for construction. No trees or shrubs in ungraded areas shall be cut without the permission of the Engineer.

20. All pavement markings and traffic flow arrows shown on the roadway construction plans are schematic only. The actual location and application of pavement markings shall be in accordance with Section 704 of the applicable VDOT Road and Bridge Specifications, MUTCD, sequence of construction/traffic control plans, pavement marking on plan Sheet 8 and as directed by the Engineer.

21. The following sources, under contract with the City of Lynchburg, have provided information on this project:

Hydraulic Design - EPR, P.C.
Roadway Design - McCormick Taylor, Inc.
Utility Design - N/A
Utility Designation - MISS UTILITY and City
Survey - Berkley-Howell & Associates, and P.C. Perkins & Orrison, Inc.

If questions or problems arise during construction, please contact the City of Lynchburg attn: Clay Simmons DPWD 434-455-4450. DO NOT CONTACT THE OUTSIDE SOURCES.

22. The temporary erosion and siltation control items shown on the plans are intended to provide a general plan for controlling erosion and siltation within the project limits. The Erosion & Sediment Control (ESC) Plan is based on field conditions at the time of plan development and an assumed sequence of construction for the project. The contractor, in conjunction with the Project Engineer and/or Environmental Monitor, shall adjust the location, quantity and type of erosion and sediment control items required based on the actual field conditions encountered at the time of construction and the actual scheduling and sequencing of the construction activities. Significant changes to the proposed ESC Plan (e.g., those that require emergengy analysis) shall be submitted to the City of Lynchburg for review and approval. Any changes to the proposed ESC Plan must be noted on a designated plan set (Record Set) which shall be retained on the project site and made available upon request.

23. The areas beyond the project's construction area are to be protected from siltation in accordance with the Virginia Erosion and Sediment Control Handbook. Perimeter controls such as filter barrier, silt fence, diversion dikes, turbidity curtains, etc. shall be installed prior to any grubbing operations or other earth moving activities.

24. Rock for Check Dams, Drop Inlet Silt Traps, Erosion Control Stone and Riprap shall be in accordance with Section 203 and Section 414 of the applicable VDOT Road and Bridge Specifications.

25. All disturbed areas shall be fertilized and seeded with the applications as follows until a suitable stand of grass is obtained and approved by the Engineer.

Fertilizer (10-10-10) @ 1000 lb/acre or Approved Equivalent
Ground Limestone @ 1 ton/acre
Grass Seed (Ky. 31 Fescue) @ 150 lb/acre
Mulch (Straw or Approved Equivalent) @ 400 lb/acre

If construction takes place between November 1 and April 1, an additional 150 lb/acre of Rye grass is required.

26. Items depectided as NIC are not included in Contract.

27. All seeded and landscaped areas shall be watered with a minimum of 1/2 rainfall equivalent every 3 days from installation until first hard freeze. This water will be supplied and paid for by the contractor and should be included in the bid item for the individual seed and landscape items if bid separately or in the mobilization item if bid lump sum.

28. All seeding and landscaping will be guaranteed by the contractor from 1 year of installation.

29. All old lighting poles, bases, and wiring that is being replaced by new lighting shall be demoed and removed by contractor with the cost being incidental to the pole bases and conduit.

30. All pavement, base, sidewalks, and other items impacted by the installation of the lighting bases, wiring conduit, and irrigation items be replaced in kind or better by contractor with the cost being incidental to the pole bases, conduit, and irrigation items.

31. Trees annotated "TBR" are to be removed by the contractor with the cost being incidental to grading.

32. Install VDOT standard underdrain with traffic rated cleanouts at that outfalls into drainage structures as need at low points in the pervious pavement system.

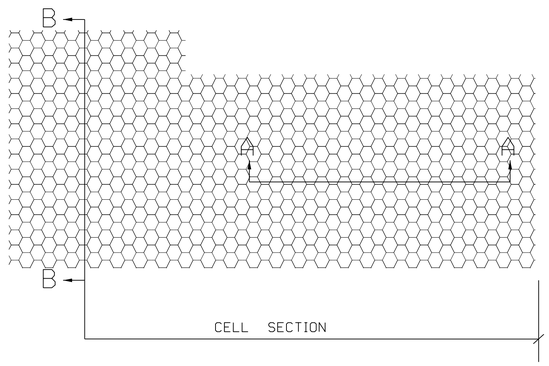
	PROJECT	SHEET NO.
	LYNCHBURG STADIUM	2

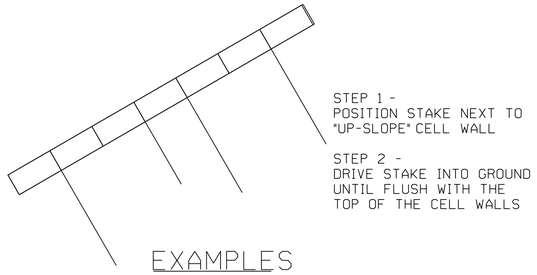
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY, HOWELL, & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick, Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

DETAILS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	.	STADIUM GRASS PARKING	2A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

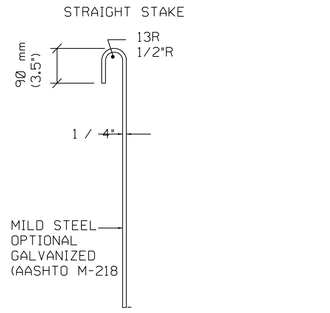




EXAMPLES

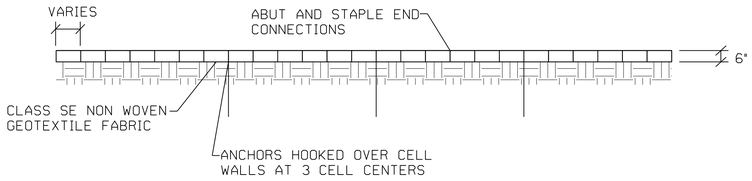
STAKE ANCHOR INSTALLATION

NO TENDONS

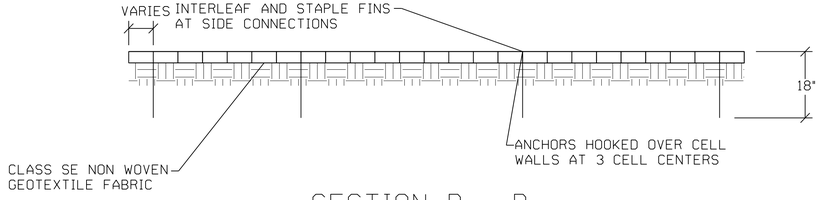


J-PIN

TYPICAL STAKE DETAILS



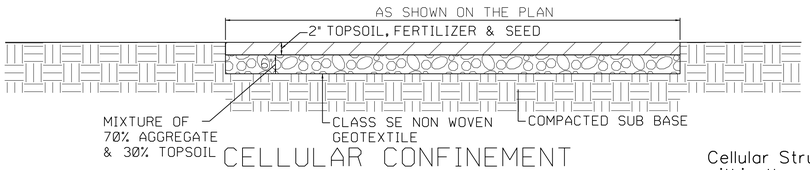
SECTION A - A



SECTION B - B

TYPICAL CELLULAR CONFINEMENT SYSTEM

NOT TO SCALE



CELLULAR CONFINEMENT
LOAD SUPPORT SYSTEM

NOTES:
1. PREPARE THE SUBGRADE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
2. COMPACT THE SOIL TO A MINIMUM 95% STANDARD PROCTOR.
3. VERIFY THAT THE SUBGRADE STRENGTH. IF UNACCEPTABLE, THE SOILS SHALL BE REMOVED AND REPLACED AS DIRECTED BY THE ENGINEER.
4. PROVIDE GEOTEXTILE SEPARATION LAYER.
5. WHERE REQUIRED, PLACE AND COMPACT SUBBASE MATERIAL TO A MINIMUM 95% STANDARD PROCTOR.
6. PLACE EXPAND THE GEOWEB SECTIONS INTO POSITION AND CONNECT THE END TO END AND INTERLEAF CONNECTIONS WITH J-PIN OR ATRA KEYS.
7. PLACE THE SPECIFIED INFILL MATERIAL TO 2 INCHES ABOVE CELL WALLS AND COMPACT TO A MINIMUM 95% STANDARD PROCTOR.
8. PLACE 2" OF TOPSOIL, FERTILIZE & SEED.

Cellular Structure Placement. Place 6" depth GW30V PRESTO® GEOWEB® perforated cells (or equal) within three working days of geotextile placement. Expand sections into position and anchor with steel J pins prior to placing the infill. Install the minimum number and layout of the J pins as specified with additional pins as needed to hold the shape and specified dimensions of the expanded cell sections. Ensure J pin diameter and length are suitable to hold the expanded cell sections in tension for the subgrade conditions at the site.

At manholes or other obstructions, stretch the cell section into position and cut out around the perimeter of the obstruction to allow the cell section to fit around the obstruction and be anchored flat on the prepared surface.

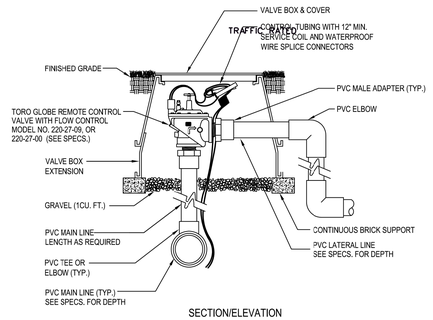
Ensure the upper surfaces of adjoining cell sections are flush at the joint. Interleaf sides and abut the ends of adjoining cell sections. Staple adjoining sections staple to each other. Align welded edge seams when stapling sides of adjoining sections. Align abutting sections at longitudinal center lines and staple at the cell wall contact point.

Placement of Infill. Place No. 7 stone aggregate and topsoil mix into the expanded HDPE cells to a level at least 2 in. above the top of the cell walls. Limit the drop height of infill to 3 ft. using equipment operating adjacent to the cell sections. Equipment operating on the cell sections is only allowed on cell sections that have been filled and covered with the minimum 2 in. of additional material. Compact infill material to a minimum density of 95 percent of the standard proctor dry density. Grade compacted aggregate surface to a level 1 ± 1/2 in. above top of the cell walls.

Cellular Confinement Load Support System will be measured and paid for at the Contract unit price per square yard. Payment will be full compensation for all excavation, geotextile, cellular structure, J pins, staples, fasteners, aggregate topsoil mix, subgrade preparation, hauling, removal and disposal of unsuitable material, anchoring, grading, compacting, and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

TORO®

TORO-IRRIGATION DIVISION
5825 JASMINE STREET
RIVERSIDE, CA 92504
TOLL FREE: 1-800-664-4740
PHONE: (951) 785-3152
FAX: (951) 359-1870
www.toro.com



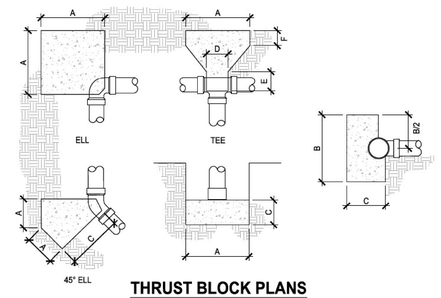
SECTION/ELEVATION
NOT TO SCALE

☑ SELECT DESIRED OPTION
☐ 2-1/2"
☐ 3"
✓

NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
2. DO NOT SCALE DRAWINGS.
3. CONTRACTORS NOTE: FOR PRODUCT AND COMPANY INFORMATION VISIT www.CADdetails.com/info REFERENCE NUMBER 065-051.

VALVES: 220 SERIES
2-1/2" OR 3" BRASS VALVE, ELECTRIC , PRESSURE REGULATED

065-051



THRUST BLOCK PLANS

PIPE	TEES						PLUGS			90° BEND			45° BEND		
DIA.	A	B	C	D	E	F	A	B	C	A	B	C	A	B	C
3"	12	20	8	12	-	-	12	20	8	18	12	8	8	12	12

THRUST BLOCK SCHEDULE

	PROJECT	SHEET NO.
	LYNCHBURG STADIUM	2A

PROJECT MANAGER Willliam "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC. P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

IRRIGATION SPECS, DETAILS, & NOTES

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.	.	STADIUM GRASS PARKING	2B

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

TMC-424 SPECIFICATIONS

1. Irrigation Controller

1.1. Bidding Specifications

1.1.1. The irrigation system controller shall be of a modular station outputs in various configurations utilizing hybrid control technology and shall be capable of automatic, semi-automatic and manual operations.

1.1.2. The controller will be housed in a weatherproof, lockable, high-impact plastic cabinet suitable for wall mounting.

1.1.3. The controller shall have a removable modular internal power supply to allow for conversion from outdoor to an indoor model with the addition of an external AC power supply.

1.1.4. The controller shall operate on a 120 VAC ±10% power input and be capable of a maximum of 0.5 Amps at 24 VAC per station. The controller shall be capable of operating three stations plus a master valve or pump start circuit simultaneously.

1.1.5. The controller shall be expandable in 4- or 8-station increments from 4- to a maximum of 24-stations using station modules that can be field-installed in either standard surge, high surge or high surge with flow monitoring capability depending on customer need and application. Surge levels for station modules shall be 1KV for standard surge and 6 KV for high surge models in common and normal modes. Station modules in any of the six configurations do not require any additional accessories and can be mixed and matched if so desired. The station count and location of the module shall be displayed on the LCD in real-time and can be installed or removed without removing AC power from the controller.

1.1.6. Each station on the controller shall be capable of an operating time of 1 to 59 seconds in one-second increments and 1 minute to 8 hours in 1-minute increments. Each station may be independently assigned to any or all of the four irrigation programs. Station run times shall be independent for each irrigation program.

1.1.7. The controller shall have four separate irrigation programs (A, B, C, D) with each program capable of running independently from one another. Each program shall have one of four programming choices for active watering days noted as: 1) a seven-day variable (calendar) cycle, 2) one to thirty one-day fixed interval cycles with 1-7 day selectable day exclusion or 3) odd or even calendar watering days with 1-7 day exclusion and 4) OFF mode.

1.1.8. The controller shall also have three selectable operating modes that are applied globally as follows: 1) stacking or if one or more programs have overlapping start times, the program with the first start time will complete the second, followed by the second program start, 2) operating two programs simultaneously or 3) operating 3 programs simultaneously.

1.1.9. The controller shall have a true 365-day calendar with12/24-hour, real-time clock and seven-day calendar. Year, month, day-of-week, time of day, programming and operational status information shall be shown in a large liquid crystal display (LCD).

1.1.10. The controller shall have a Season Adjust feature that allows the independent adjustment of each irrigation program from 0% to 200% in 10% increments.

1.1.11. The controller shall have a separate terminal block for a master valve / pump start can be programmed on or off independent from each of the four programs. The controller shall have a pump start delay feature allowing each irrigation program (A, B, C, D), to programmed independent of one another.

1.1.12. The controller shall have a station delay (well recovery) feature allowing each program (A, B, C, D) to be programmed independently from one another. This feature provides selectable delay time between individual stations within a program from zero to 60 seconds or one minute to 60 minutes.

1.1.13. The controller shall have electronic overload detection capability. This feature is capable of interrupting a programmed run time when an electronic overload greater than 1.20 MA from a shorted field wire or failed solenoid is detected. The controller will stop irrigation of that specific valve and immediately display the corresponding station where the short occurred plus the word FUS. The controller will automatically move to the next scheduled station or program to complete the scheduled irrigation cycle. The alarm can be over-ridden by the resetting the controller through button and dial functions.

1.1.14. The controller shall have two manual-start features, 1) that allows all or independently selected stations to be run on a program and 2) allows an entire all stations within a program be operated sequentially. When a manual station is operating, the controller will display the currently running station or program, the time remaining on the running station, pending stations and a watering status icon.

1.1.15. The controller shall have a "Valve-Test" function that allows every station to be run for a two-minute period (factory default). The duration of run times is selectable from 30 seconds or 1-10 minutes in 1 minute increments. This function is independent of individual manual and program manual starts.

1.1.16. The controller shall be capable of learning flow rates associated with each stations and reacting to flow rates outside of setpoints above and below that learned flow. When the flow functions are activated, the controller automatically learns (reads) and records station flow data. A properly sized and located flow sensor is required to provide accurate flow data.

1.1.17. The controller shall be capable of reacting to unexpected overflow conditions by monitoring the faulty station for one minute and then advancing to the next station in the program, shutting down the faulty station and posting an alarm message in the controller display.

1.1.18. The controller shall be capable of reacting to unexpected underflow conditions by monitoring the faulty station for one minute and then advancing to the next station in the program, shutting down the faulty station and posting an alarm message in the controller display.

1.1.19. The controller shall be capable of reacting to unexpected catastrophic flow conditions (main line break) by advancing through all stations in the currently running program and shutting down irrigation and closing the master valve associated with the fault. An alarm message will be posted to the controller display.

1.1.20. The controller shall be capable of using either a Normally Open or Normally Closed Master Valve with the flow sensing and unexpected flow reaction features.

1.1.21. The controller shall have a rain or freeze sensor port, compatible with a normally closed, switch-type sensors.

1.1.22. The controller shall have non-volatile memory with the ability to retain all programming information for a period of not less than 5 years in the event of AC power loss. Time of day, month and year shall be retained for a period up to 24 hours.

1.1.23. The controller shall include a 9V battery connection for time and date retention longer than 24 hours and for programming the controller timing module disconnected from the controller.

1.1.24. The controller shall have the ability to display information in the LCD in English, Spanish, French, Italian, and German.

1.1.25. The controller shall be developed by an ISO 9001-certified facility.

1.1.26. The controller, model number TMC-424, shall be manufactured by The Toro Company, Irrigation Division, Riverside, California, USA.

2. PVC [Tee] Irrigation Flow Sensor

2.1. Bidding Specifications

2.1.1. The flow sensor shall be an in-line type with a non-magnetic, spinning impeller (paddle wheel) as the only moving part.

2.1.2. The electronics housing shall be glass-filled PPS.

2.1.3. The impeller shall be glass-filled nylon or Tefzel®with a UHMWPE or Tefzel sleeve bearing.

2.1.4. The shaft material shall be tungsten carbide.

2.1.5. The electronics housing shall have two ethylenepropylene O-Rings and shall be easily removed from the meter body. The sensor electronics will be potted in an epoxy compound designed for prolonged immersion.

2.1.6. Electrical connections shall be 2 single conductor 18 AWG leads 48 inches long. Insulation shall be direct burial "UF" type colored red for the positive lead and black for the negative lead.

2.1.7. The sensor shall operate in line pressures up to 100 psi and liquid temperatures up to 140°F, and operate in flows of 1⁄2 foot per second to 20 feet per second with linearity of ±1% and repeatability of ±1%.

2.1.8. The sensor body shall be fabricated from Schedule 80 PVC Tees, available in 11⁄2", 2", 3, and 4" with socket end connections.

2.1.9. This flow sensor shall be a Data Industrial Model IR-220P.

3. Cable for Flow Sensors

3.1. Bidding Specifications

3.1.1. Data Industrial sensors may be located up to 2000' from Toro TMC-424 controllers.

3.1.2. All data communications wire connecting flow sensors to the electronics that are buried below grade, with or without conduit, shall be constructed to direct burial specifications similar to Telecommunications Exchange Cable (REA PE-89).

3.1.3. The cable shall be constructed of 20 AWG, or larger, copper conductors twisted into pairs of varying lengths to prevent cross talk. Conductors shall be insulated with polyethylene or propylene with a suggested working voltage of 350 volts. The cable shall feature an aluminum-polyester shield and be finished with a black high-density polyethylene jacket. Cable should be equivalent to AT&T PE-39 or PE-89.

4. Splices for Flow Sensors

4.1. Bidding Specifications

4.1.1. It is important that all wire connections be absolutely watertight with no leakage to ground or shorting from one conductor to another.

4.1.2. All splices shall be Epoxy-type wire connector kits such as 3M Series 3500 Scotch-LOK connector packs or 3M Series 7000 Epoxy Wire Connector Kits. If one connector is used for both wire connections, make sure that the splices are staggered to prevent shorting. Follow the manufacturer's instructions on the package.

5. Surge Protection Devices for Flow Sensors and Controller

5.1. Bidding Specifications

5.1.1. The flow sensor surge protection devices shall be the Data Industrial A1017 Sensor line surge suppressor that is a hybrid devices\ employing gas-filled surge voltage protectors to handle large surge currents, and avalanche type silicon devices for extremely rapid response.

5.1.2. The A1017 shall be capable of outdoor installation where exposure to standing water, rain, or spray is expected. The suppressor shall protect against surges categorized by IEEE Specification 587, Category B (short branch circuits).

5.1.3. Electrical Specifications:

5.1.3.1.1.1. Clamping Voltage: 15V

5.1.3.1.1.2. Series Resistance: 2.4 Ohms

5.1.4. OPTIONAL: If greater than 50' wire run between controller and flow sensor, two surge protection devices will be used one mounted at the controller termination of the wire run and one mounted at the sensor termination of the wire run. This ensures protection for both controller and flow sensor in the event of lighting strike to the wire run.

TORO

T5 RAPIDSET SERIES SPRINKLER BIDDING SPECIFICATIONS

Note: These specifications were current at the time of publication, but are subject to change at any time without notice. Please confirm the accuracy of these specifications with the manufacturer and/or distributor prior to installation.

The combination full- and part-circle sprinklers shall be a gear-driven rotary type and infinitely adjustable between 40 and 360 degrees. The sprinkler shall be capable of covering 40 feet of radius at 45 pounds per square inch (psi) pressure with a discharge rate of 3.05gallons per minute (gpm). Water distribution shall be via one nozzle insert from a nozzle tree of eight (8) standard and four (+) low angle nozzles. Radius reduction shall be adjustable up to 25% by means of a stainless steel radius adjustment screw accessible from the top of the nozzle when the sprinkler is properly installed. The body and cap of the sprinkler shall be injection-molded ABS (Acrylonitrile butadiene styrene), a heavy-duty, non-corrosive, impact and UV-resistant plastic material. The sprinkler shall have a plastic filter screen in the base of the riser that prevents the entry of foreign material into the nozzle. All components shall be removable from the top of the sprinkler case.

The sprinkler shall have a single-piece riser/body seal that regulates flushing during pop up and retraction to clear any debris from around the riser; a heavy-duty stainless steel spring shall ensure positive retraction of the riser. The seal shall utilize a spring support that supports the spring and maintains positive engagement between the seal and the body. The seal shall be a single piece construction and made of injection-molded Monprene impregnated with Kemamide®.

The sprinkler shall incorporate RapidSet®, arc arc adjustment feature that allows the sprinkler's arc to be set or adjusted without the need for an adjustment tool. With RapidSet, the rotor's arc can be set by hand through a series of turns o' the nozzle base. The sprinkler shall include a nozzle base slip clutch feature that enables the user to rotate the nozzle base in either direction (wet or dry) and hold in one position (during operation) for spot watering without the risk of breaking the rotor's gears.

The sprinkler shall be capable of accepting any one of twelve (12) nozzles. The eight (8) standard nozzles shall offer flow ranges of 1.5 to 8.0 gpm and shall have a trajectory of 25 degrees. The low angle nozzles shall have flow ranges of 1.0 to 3.0 gpm and shall have an approximate trajectory of 10 degrees. All nozzles shall be clearly marked just below the nozzle openings with their respective flow rate. The sprinkler shall employ a modular, interchangeable nozzle technology. Any individual nozzle shall be easily removed, installed and held in place by the stainless steel set screw located on top of the rubber cover. The standard #3.0 nozzle shall be factory installed.

Rotation shall be accomplished by a water-lubricated gear drive assembly driven by a variable stator that maintains a relatively constant speed of rotation with all nozzles. The variable stator shall require no adjustments when changing nozzles.

An optional check valve shall be available with a hold back strength of 7' of elevation change. The T5 shall have a 5" pop up when measured from the level of the installed grade to the top of the standard rubber cover.

The sprinkler shall be a model number TP5CKSSE-RS and shall be manufactured by The Toro Company, Irrigation Division, based in Riverside, California, USA.

END OF SECTION

April 2015

220 SERIES BRASS VALVES BIDDING SPECIFICATIONS

Note: These specifications were current at the time of publication but are subject to change at any time without notice. Please confirm the accuracy of these specifications with the manufacturer and/or distributor prior to installation.

The 220 Series remote control valve body and bonnet shall be constructed of ingot brass valve and stainless steel and have a maximum pressure rating of 220 PSI. The diaphragm shall be made of double-beaded, fabric-reinforced rubber to retain flexibility and provide maximum sealing throughout its area. The diaphragm assembly shall be fully serviceable, held together with stainless-steel components. All parts shall be serviceable from the top of the valve without removing the valve from the line. The valve may be installed at any angle without affecting valve operation. All other internal parts shall be made of brass and stainless steel to ensure corrosion resistance. The valve shall have an internal manual downstream bleed to prevent flooding of the valve box and be capable of operation by hand with a screwdriver or a socket wrench. The manual bleed also shall be capable of external bleed for system flushing. The valve shall have a removable, self-flushing, 120-mesh, stainless-steel filter screen. The screen will be positioned on the supply side of the stream. The valve shall have a manual flow control with a hand-operated, rising-type flow-control stem with a control wheel/handle. The flow control shall be adjustable down to zero flow. For 1" models, friction loss at 40 GPM shall not exceed 7.0 PSI on electric valves. For 1-1/4" models, friction loss at 100 GPM shall not exceed 16.0 PSI on electric valves. For 1-1/2" models, friction loss at 120 GPM shall not exceed 15.0 PSI on electric valves. For 2" models, friction loss at 180 GPM shall not exceed 14.0 PSI on electric valves. For 2-1/2" models, friction loss at 250 GPM shall not exceed 7.0 PSI on electric valves. For 3" models, friction loss at 350 GPM shall not exceed 7.5 PSI on electric valves. The burst pressure safety rating shall be 750 PSI. The valve must open or close in less than one minute at 220 PSI, and less than 30 seconds at 20 PSI. The valve shall have a plastic solenoid, which is fully encapsulated and have a captured hex plunger and spring. The solenoid will have a removable retainer for servicing of the spring and plunger. The plunger shall be on a stainless-steel solenoid seat for longer life. The 24V a.c. solenoid shall open with a 22.5V a.c. minimum at 220 PSI. At 24V a.c. average inrush, current shall not exceed 0.40 amps. Average holding current shall not exceed 0.20 amps. Line Pressure - Voltage 220 PSI - 22.5 200 PSI - 21.1 175 PSI - 20.2 150 PSI - 19.1 125 PSI - 18.2 100 PSI - 17.1 75 PSI - 16.1 50 PSI - 16.0 The valve shall have a built-in, Schrader-type valve for attaching a pressure gauge to verify downstream pressure. The valve shall be able to field retrofit with an optional pressure-regulating module, EZReg(TM), which can be factory or field installed. The regulator shall be able to be field-installed or serviced under pressure. The valve shall have a forward-flow design to ensure more precise regulation when used with a pressure regulator.
Pressure Regulating Electric Models: The pressure regulator, EZReg(TM), shall be of dial design to permit visual setting of pressure with or without the valve being operated or the use of a pressure gauge. The regulator shall be of a screw-in type and shall regulate precisely over a 5-100 PSI range with maximum inlet pressure of 220 PSI. The regulator shall maintain the set pressure within ± 3 PSI (with a 10 PSI differential between inlet and outlet). The [1" / 1-1/4" / 1-1/2" / 2" / 2-1/2" / 3"] 220 Series valve shall be of [electric, electric pressure regulating] configuration with female-threaded inlet and outlet connections. The 1"-2" valves shall be an in-line configuration and the 2-1/2" / 3" valves shall be an angle configuration. The valve shall be developed, manufactured, qualified and released in the USA. The valve shall come with a 5-year trade warranty.
The valve shall be manufactured, qualified and released in the USA. The valve, model number 220-27-09, shall be manufactured by The Toro Company, Irrigation Division, El Paso, Texas, USA.
END OF SECTION

	PROJECT	SHEET NO.
	LYNCHBURG STADIUM	2B

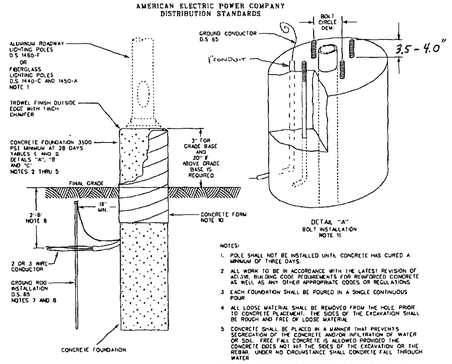
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY, HOWELL, & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM GRASS PARKING	2C

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

DETAILS

AMERICAN ELECTRIC POWER COMPANY
DISTRIBUTION STANDARDS



NOTES:
1. POLE SHALL NOT BE INSTALLED UNTIL CONCRETE HAS CURED A MINIMUM OF THREE DAYS.
2. ALL WORK TO BE IN ACCORDANCE WITH THE LATEST REVISION OF ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE AS WELL AS ANY OTHER APPROPRIATE CODES OR REGULATIONS.
3. EACH FOUNDATION SHALL BE POURED IN A SINGLE CONTINUOUS POUR.
4. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE HOLE PRIOR TO CONCRETE PLACEMENT. THE SIDES OF THE EXCAVATION SHALL BE ROUGH AND FREE OF LOOSE MATERIAL.
5. CONCRETE SHALL BE PLACED IN A MANNER THAT PREVENTS SEGREGATION OF THE CONCRETE AND/OR INFILTRATION OF WATER OR SOIL. FREE FALL CONCRETE IS ALLOWED PROVIDED THE CONCRETE DOES NOT HIT THE SIDES OF THE EXCAVATION OR THE REBAR. UNDER NO CIRCUMSTANCE SHALL CONCRETE FALL THROUGH WATER.
8. BURY UNDERGROUND CONDUCTORS 30" ø DIRECT BURIED AND 24" ø IN CONDUIT.
7. GROUND RODS ARE TO BE DRIVEN TO THE DEPTH SHOWN UNLESS ROCK OR OTHER OBSTRUCTIONS ARE ENCOUNTERED. RESISTANCE OF INDIVIDUAL GROUND LOCATIONS SHOULD BE LOWERED TO PRACTICAL VALUES. ADDITIONAL GROUND RODS MAY BE DRIVEN (NO MORE THAN THREE AT ANY SINGLE LOCATION).
8. GROUNDING CONDUCTOR SHALL BE CONNECTED TO GROUNDING STUD OF METALLIC POLES IN VICINITY OF HANDHOLE AND TO FIXTURES GROUNDING LUG.
9. FOR SOIL CLASSIFICATION DETAILS, REFER TO D.S. 220.
10. FORM FOR CONCRETE FOUNDATION SHALL BE MADE FROM SONOTUBE OR SIMILAR MATERIAL. FORM SHALL EXTEND MINIMUM OF 12" BELOW GRADE.
11. REFER TO POLE MANUFACTURER'S INSTRUCTIONS FOR PLACEMENT OF ANCHOR BOLTS AND TORQUE REQUIREMENTS. POLE MANUFACTURER TO SUPPLY TEMPLATE AND ANCHOR BOLTS.
12. SIZE CONDUIT FOR CONDUCTORS. TWO CONDUITS MAY BE INSTALLED IF CONDUCTOR LOOPS THROUGH FOUNDATION.
13. FORM HORIZONTAL REBAR IN RING OF 12" DIAMETER FOR 18" DIAMETER FOUNDATION AND 10" FOR 24" FOUNDATION.
14. HORIZONTAL TIES SHALL BE TIED TO VERTICAL REINFORCEMENT WITH STANDARD REINFORCEMENT TIE WIRE.

TABLE I
CONCRETE FOUNDATION LENGTH
NOTE 9

FOUNDATION DESIGN	DIAMETER INCHES	GRADE BASE FOUNDATION LENGTH IN FEET: SOIL CLASSIFICATION HARD OR NORMAL	GRADE BASE FOUNDATION LENGTH IN FEET: SOIL CLASSIFICATION SOFT	ABOVE GRADE BASE FOUNDATION LENGTH IN FEET: SOIL CLASSIFICATION HARD OR NORMAL	ABOVE GRADE BASE FOUNDATION LENGTH IN FEET: SOIL CLASSIFICATION SOFT
A	18	4	5	7	
B	18	5	6	8	
C	24	5	6	7	8
D	24	6	7	9	
E	24	8	9	10	

JULY 15, 2002

CONCRETE FOUNDATION

D.S. 1435
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AMERICAN ELECTRIC POWER COMPANY
DISTRIBUTION STANDARDS

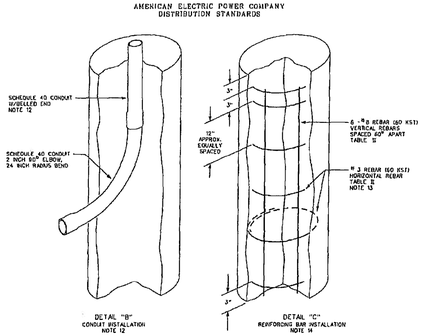


TABLE II
FOUNDATION REBAR INFORMATION

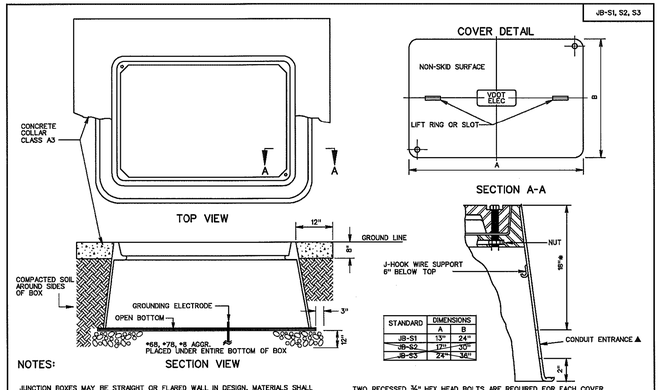
FOUNDATION SIZE DIAMETER INCHES	FOUNDATION SIZE LENGTH IN FEET	CUBIC YARDS OF CONCRETE	#8 REBAR (60 KSI) VERTICAL REINFORCEMENT REBAR: LENGTH (FT-IN)	#8 REBAR (60 KSI) VERTICAL REINFORCEMENT REBAR: WEIGHT (LBS)	#3 REBAR (60 KSI) HORIZONTAL REINFORCEMENT REBAR: QUANTITY	#3 REBAR (60 KSI) HORIZONTAL REINFORCEMENT REBAR: LENGTH (FT-IN)	#3 REBAR (60 KSI) HORIZONTAL REINFORCEMENT REBAR: WEIGHT (LBS)
X	4	0.26	3'-6"	34	5	4'-2"	8
	5	0.33	4'-6"	43	6		9
	6	0.39	5'-8"	52	7		11
	7	0.46	6'-8"	59	8		13
	8	0.52	7'-8"	68	9		14
24	5	0.51	4'-8"	43	8	8'-8½"	12
	6	0.70	6'-8"	50	7		13
	7	0.81	8'-8"	56	8		17
	8	0.93	7'-8"	68	9		19
	9	1.05	8'-8"	77	10		21
	10	1.16	9'-8"	88	11		24

JULY 15, 2002

CONCRETE FOUNDATION

D.S. 1435
PAGE 2 OF 2

JB-S1, S2, S3



STANDARD	DIMENSIONS A	B
JB-S1	13"	24"
JB-S2	17½"	30"
JB-S3	24"	36"

NOTES:

JUNCTION BOXES MAY BE STRAIGHT OR FLARED WALL IN DESIGN. MATERIALS SHALL CONFORM TO SECTION 238 OF THE ROAD & BRIDGE SPECIFICATIONS.

BELL ENDS SHALL BE INSTALLED ON THE ENDS OF PVC CONDUITS.

GROUNDING BUSHINGS SHALL BE INSTALLED ON THE ENDS OF METAL CONDUITS.

BELL ENDS AND BUSHINGS SHALL BE PLUGGED TO PREVENT MOISTURE AND RODENT ENTRY.

*DEPTH OF CONDUIT ENTRANCE FOR USE OF MAGNETIC DETECTORS SHALL BE IN ACCORDANCE WITH STANDARD TD-2.

CONDUIT ENTRANCES SHALL BE LOCATED AS SHOWN ON THE PLANS.

THE COVER SHALL HAVE A NON-SKID SURFACE WITH LETTERS CAST IN THE DEPRESSION ON TOP. THE LETTERS "VDOT ELEC", "VDOT TRAF", "VDOT COMM" OR UTILITY AS APPLICABLE ARE TO BE 1" WIDE. COVERS USED FOR JUNCTION BOXES INSTALLED WITHIN MUNICIPALITIES SHALL NOT REQUIRE THE VDOT REFERENCE.

ALL JUNCTION BOXES SHALL BE INSTALLED WITH A GROUNDING ELECTRODE

TWO RECESSED ⅜" HEX HEAD BOLTS ARE REQUIRED FOR EACH COVER.

▲ A MINIMUM 2" DIAMETER CONDUIT ENTRANCE IS REQUIRED, UNLESS OTHERWISE SPECIFIED ON THE PLANS.

J-HOOK WIRE SUPPORTS SHALL BE SECURELY ATTACHED TO THE JUNCTION BOX WITH A BOLT AND NUT WITH A NEOPRENE WASHER OR AN EXPANSION FITTING.

CONDUITS SHALL EXTEND 2" TO 3" MAX. INTOTHE INSIDE WALL OF THE JUNCTION BOX.

THE JUNCTION BOX MAY BE A TWO PIECE DESIGN WITH THE TOP SECTION NO LESS THAN 17" IN DEPTH.

VOIDS RESULTING FROM ENTRANCE OF CONDUITS INTO JUNCTION BOXES SHALL BE COMPLETELY FILLED WITH AN APPROVED MATERIAL.

INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 700 OF THE ROAD & BRIDGE SPECIFICATIONS.

SPECIFICATION REFERENCE	JUNCTION BOX FOR NON-DELIBRATE TRAFFIC USE	VDOT ROAD AND BRIDGE STANDARDS
700 238	VIRGINIA DEPARTMENT OF TRANSPORTATION	REVISION DATE: SHEET 1 OF 1
		1317.20

FEATURES & SPECIFICATIONS

CONSTRUCTION - Welds conform to applicable AWS structural welding code. Pole shaft is one piece, low carbon alloy steel per ASTM A595, Grade A or ASTM A500, Grade C with 50,000-PSI minimum yield strength. Pole base shall be per ASTM A36 and shall telescope pole shaft and be circumferentially welded top and bottom. Hand hole is 2" x 4" minimum, cover and fasteners are included. Base covers shall be two piece, interlocking construction. Finish shall match pole. Removable pole cap shall be provided with each drill pattern type pole. Non-structural fasteners shall be stainless steel.

FINISH – Galvanized poles per ASTM A123. Painted poles shall be semi-gloss powder paint.

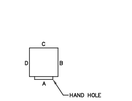
GROUNDING – Grounding provision shall be immediately accessible through hand hole, ½-13 threads.

ANCHOR BOLTS – Steel anchor bolts shall be per AASHTO M314 or ASTM F 1554 - Grade 55, hot dip galvanize. Nuts and washers shall be per AASHTO M314-90 or ASTM F 1554 – hot dip galvanized.

Catalog Number	
Order Number	Type

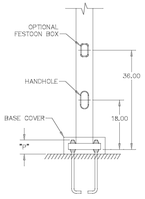
SSS

SQUARE STRAIGHT STEEL POLES



POLE TOP STYLE	ORIENTATION
D1 1 UNIT	C
D2 2 UNITS @ 180	B,D
D3 3 UNITS @ 90	B,C,D
D4 4 UNITS @ 90	A,B,C,D
D5 3 UNITS @ 90	B,C

DRILL PATTERN ORIENTATION



POLE ORDERING DATA

How to construct a catalog number for SSS poles:
EXAMPLE SSS2555C D1 R3 BZ 1 Fill in Catalog Number _____ ___ ___ ___ ___
1 2 3 4 5

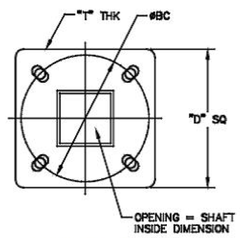
STEP	CATALOG NUMBER	DESCRIPTION
1. BASE POLE	(SEE SHEET 2)	SQUARE STRAIGHT STEEL
2. POLE TOP STYLE	D1	DRILLING FOR 1 UNIT
	D2	DRILLING FOR 2 UNITS @ 180
	D3	DRILLING FOR 3 UNITS @ 90
	D4	DRILLING FOR 4 UNITS @ 90
	D5	DRILLING FOR 2 UNITS @ 90
	P2	TENON, 2.38 O.D. X 4" LG.
	P3	TENON, 3.50 O.D. X 6" LG.
	P4	TENON, 4.50 O.D. X 6" LG.
	P5	TENON 2.88 O.D. X 4" LG.
3. POLE TOP DRILL PATTERN	H1	PARKPACK, HORZ NO ARM
	H3	PARKPACK, HORZ WITH ARM
	J4	MIRROSTAR ONLY
	R2	MOD 600 & SOMERSET ONLY
	R3	MONGOOSE ONLY
	T3	POLESTAR ONLY
	W5	PARKPACK, VERT NO ARM
	ND	NO DRILL PATTERN
	AF1	AEL 53
	AF2	AEL 153
	AF3	AEL LS, LM
	AF5	AEL AVL W/A-OPTION
	AF6	AEL ASA & AVL
4. FINISH	BK	BLACK PAINT
	BZ	BRONZE PAINT
	GN	GREEN PAINT
	GR	GRAY PAINT
	HG	HOT DIP GALVANIZED
	PP	PRIME PAINT
	WH	WHITE PAINT
5. OPTIONS	1	FESTOON BOX
	3	TAMPER RESISTANT SCREWS
	4	VIBRATION DAMPENER

NOTES:
1. Pole top drill pattern types H1 - W5 are available on drilled pole tops only. ND is only available on tenon pole tops.
2. The Festoon Box is located on the same side as the hand hole, 36" above pole base. Receptacle / Cover are not included.

HOLOPHANE®

SSS.PMD (HL-2079) 5/20/13

SSS Square Straight Steel Poles					NON-AASHTO Rating: 90 mph + 1.14 gust		100 mph + 1.14 gust		100 mph + 1.14 gust			
Ref. Item No.	Base Pole Number	Nominal Pole Height	Nominal Shaft Size & Wall Thickness	EPA Vertical Offset from Top of Pole	Max EPA	Max Wt.	Max EPA	Max Wt.	Max EPA	Max Wt.	Bolt Circle Dia.	Anchor Bolt Size
3	SSS3055C	30	5.0 Square x 11 Ga	0"	4.7	140	2	50	na	na	11	.75 x 17 +3
				30"	4.4	110	1.6	40	na	na		



BASE DETAIL

Ref. Item No.	Bolt Circle Dia.	Min. Base Size "D"	Base Thk. "T"	Bolt Projection	Anchor Bolt Set	Bolt Circle Template
3	11	11	1	3.50 - 4.00	AB-26-4	TMP-45

LIGHTING PLAN GENERAL NOTES & QUANTITIES

1. Aep Will Provide And Install All Light Poles, Luminaires And Conductor Cable. Contractor Shall Provide And Install All Remaining Items Such As Pole Foundations, Junction Boxes And Conduits.
2. The Contractor Shall Field Verify Anchor Bolts And Patterns And Foundations With Aep Prior To Installing Lighting Pole Foundations.
3. All Luminaires Shall Be Fused In The Transformer Base, Handhole, Fusebox, Or Nearest Junction Box By Aep.
4. Conduits And Junction Boxes Shown On These Plans Are Diagrammatic And Actual Conduit Runs And Junction Box Locations Shall Conform To The Field Conditions.
5. Certain Utilities Within The Vicinity Of This Project Area Are Shown On The Plans. The Utilities Shown Are Not Guaranteed To Be Complete Or Accurately Located. The Contractor Is Responsible For Locating All Existing Utilities And Lighting Systems Before Proceeding With Work.
6. At Locations Where Proposed Conduit Shall Cross Existing Conduit, The Contractor Shall Hand Dig The Trench And Shall Take Adequate Care Not To Damage The Existing Conduit Or The Contents Thereof. These Conditions Shall Apply At All Such Conduit Crossings Except Those Locations Where Proposed Conduit Will Cross Conduit Designated To Be Abandoned.
7. Conduit Shall Be Installed With Large Radius Offsets (5' Minimum Radius) To Bypass Drainage Inlets, Manholes, And Other Obstructions.
8. The Location Of The Light Pole Foundation Grounding Rod Shall Be Marked On The Top Surface Of The Foundation By A Recessed Arrow And Initial "G" Formed In The Concrete. The Ground Rod Shall Typically Be Placed To The Left Of The Lighting Pole Foundation As Observed From The Pole Handhole.
9. Conductors In Junction Boxes, Manholes, And All Equipment Enclosures Shall Be Neatly Arranged And Laced With Approved Cable Ties.
10. Where Conductor Cables Terminate In Junction Boxes Or Lighting Standards, They Shall Be Tested And Capped With 3 Ft. Of Slack Per Conductor.
11. Locations Of Existing Junctions Boxes And Manholes Shown On The Plans Are Approximate.
12. Areas Around Cabinets, Junction Boxes And Manholes On Slopes Shall Be Graded As Approved By The Engineer.
13. The Contractor Shall Coordinate Electrical Service With The Engineer And With Aep.
14. All Underground Conduits Shall Be Sloped To Drain Junction Boxes Or Manholes. If This Cannot Be Accomplished, They Shall Be Provide With Drainage Tees At The Low Points Of Conduits.
15. All Junction Boxes And Manholes Shall Be Provided With A Means For Drainage.

NOT TO SCALE	PROJECT: LYNCHBURG STADIUM	SHEET NO.: 2C

10/13/2016
9:09:55 AM

Stadium_Grass_003.dgn
Plotted By: localuser

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY, HOWELL, & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

SUPPORTED TURF AREA

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM GRASS PARKING	3

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

WYTHE ROAD (60' R/W)

S41°29'44"E 1367.40'

LIGHT POLE BASE
JB-S1
2" SCH 40 CONDUIT
TBR
CONDUIT TERMINI FOR CONNECTION TO POLE BY OTHERS
3-5
3-4
3-3
3-2
3-1
ADJUST MANHOLE COVER
4" WITE STRIPE
STD. CG-2
STD. CG-9D 24" WIDTH
STD. CG-9D 30" WIDTH
#3176 1-1/2 STORY ROCK & FRAME "CREDIT UNION" FF 805.30
DRIVE-THRU WITH ATM
BENCH MARK SURVEY DISC CITY OF LYNCHBURG GPS MON #043 ELEV=808.30'
1 STORY BRICK BATHROOM FF 809.08
1 STORY BRICK STORAGE FF 809.28
GRAVEL STORAGE AREA
TICKET BOOTH
PRESS BOX
SCOREBOARD
ELECTRIC PANEL
"CITY ST
26.745
CITY OF LY
D.B. 201,
PIN: 01

LEGEND:

- Denotes Seeded Grass
- Denotes Seeded Cellular Confinment
- Denotes Demolition of Pavement

SCALE 0 25' 50'

PROJECT	SHEET NO.
LYNCHBURG STADIUM	3

10/13/2016
9:10:03 AM

Stadium_Grass_003Adgn
Plotted By: localuser

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY, HOWELL, & ASSOC., P.C., 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

GRADING PLAN

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM GRASS PARKING	3A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER

WYTHE ROAD (60' R/W)

S41°29'44"E 1367.40'

3-1 STD. DI-1 TOP REQ'D
ADJUST EX.INLET
MATCH EXISTING TOP ELEV.
MATCH EXISTING INV.ELEV.

3-2 STD. DI-1 TOP REQ'D
ADJUST EX.INLET
MATCH EXISTING TOP ELEV.
MATCH EXISTING INV.ELEV.

3-3 STD. DI-1 TOP REQ'D
ADJUST EX.INLET
MATCH EXISTING TOP ELEV.
MATCH EXISTING INV.ELEV.

3-4 STD. DI-1 TOP REQ'D
ADJUST EX.INLET
MATCH EXISTING TOP ELEV.
MATCH EXISTING INV.ELEV.

3-5 STD. DI-1 TOP REQ'D
ADJUST EX.INLET
MATCH EXISTING TOP ELEV.
MATCH EXISTING INV.ELEV.

NOTE: COST FOR REPLACING DI TOPS SHALL INCLUDE ANY NEEDED MODIFICATIONS TO EX.INLET STRUCTURES

SCALE	PROJECT	SHEET NO.
0 25' 50'	LYNCHBURG STADIUM	3A

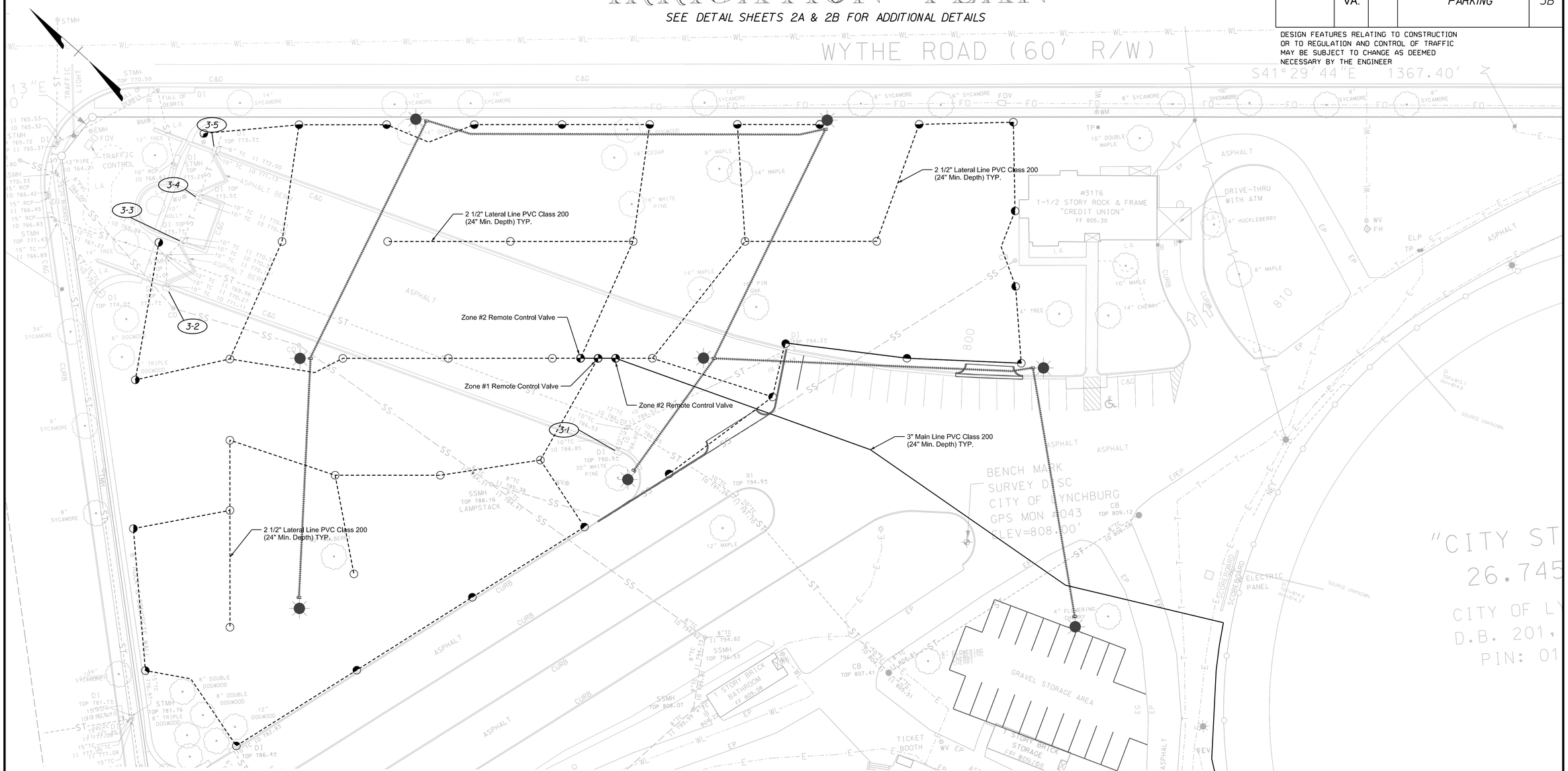
PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor, Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

IRRIGATION PLAN

SEE DETAIL SHEETS 2A & 2B FOR ADDITIONAL DETAILS

REVISED	STATE	STATE ROUTE	STATE PROJECT	SHEET NO.
	VA.		STADIUM GRASS PARKING	3B

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE ENGINEER



LEGEND:

- Toro Zone 220 Remote Control Valve
- Toro T5 Rapid Set Stainless Steel Rotor And Spray Angle
- ---- 2 1/2" Lateral Line PVC Class 200 (24" Min. Depth) TYP.
- —— 3" Main Line PVC Class 200 (24" Min. Depth) TYP.

IRRIGATION PLAN NOTES

1. THE CONTRACTOR SHALL DETERMINE LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY AND ALL WORK SPECIFIED IN THE CONTRACT. ALL EXISTING UTILITIES DAMAGED AS A RESULT OF THE CONTRACTORS WORK SHALL BE REPAIRED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER.

2. ALL IRRIGATION WORK CONTAINED WITHIN THE IRRIGATION PLAN TO BE INSTALLED PER THE IRRIGATION DETAILS, CONSTRUCTION NOTES, AND SPECIFICATIONS.

3. ALL NEW VALVE CONTROL WIRE TO BE 14 AWG/2MM2 STANDARD DECODER CABLE.

4. IRRIGATION CONTRACTOR TO PROVIDE ACCURATE RECORD DRAWINGS (IN AUTOCAD FORMAT) TO BE TURNED OVER TO THE OWNER'S REPRESENTATIVE AT THE COMPLETION OF THE PROJECT.

5. ALL IRRIGATION MATERIAL AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE OF THE WORK.

6. SYSTEM DESIGN PRESSURE IS BASED UPON 60 P.S.I. STATIC PRESSURE WITH A MINIMUM OPERATING PRESSURE OF 45 P.S.I. AT THE IRRIGATION HEAD.

7. AT THE TIME OF PROJECT COMPLETION, PROVIDE TO THE OWNER KEYS TO THE AUTOMATIC CONTROLLER AND OPERATIONS MANUALS.

8. NEW IRRIGATION CONTROLLER WITH REMOTE SHALL BE WALL MOUNTED. THE LOCATION SHALL BE COORDINATED WITH THE CITY.

9. ALL MAINLINE PRESSURE PIPING SHALL RECEIVE DUCTILE IRON FITTINGS

10. ALL REMOTE CONTROL VALVES SHALL BE INSTALLED IN TRAFFIC RATED BOXES

11. CONTRACTOR SHALL ADJUST THE SPRAY ANGLE/PATTERN OF THE T5 ROTOR TO MAXIMIZE COVERAGE OF THE GRASS AREA

SCALE	PROJECT	SHEET NO.
0 25' 50'	LYNCHBURG STADIUM	3B

PROJECT MANAGER William "Clay" Simmons, P.E. (434) 455-4443
SURVEYED BY, DATE BERKLEY HOWELL & ASSOC., P.C. 11-16-2011
DESIGN BY McCormick Taylor Inc. (804-762-5800)
SUBSURFACE UTILITY BY, DATE

REVISED	STATE	STATE ROUTE	PROJECT	SHEET NO
	VA.	×	STADIUM GRASS PARKING	4A

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

EROSION AND SEDIMENT CONTROL AND STORMWATER NARRATIVE AND STORMWATER POLLUTION PROTECTION PLAN

A. PROJECT DESCRIPTION

GENERAL
THE PURPOSE OF THIS PROJECT IS TO CONVERT THE PAVEMENT/OLD DRIVE ISLE AREA AT THE CORNER OF WYTHE AND FORT AVE TO A GRASSED PARKING AREA . THE TOTAL DISTURBED AREA FOR THIS PROJECT IS 2.29 ACRES. THE EXISTING SITE IS COMPRISED OF GRASS AND PAVEMENT. THE EXISTING SITE IS 1.73 ACRES TURF AND 0.56 ACRES IMPERVIOUS. THE PROPOSED IMPROVEMENTS WILL CONVERT THE SITE TO 1.20 ACRES TURF, 1.03 ACRES STRUCTURAL TURF (IMPERVIOUS AREA6, AND 0.06 ACRES CURB/SIDEALK (IMPERVIOUS AREA). THE PROPOSED IMPROVEMENTS WILL CREATE AN EXCESS OF 0.09 LBS/YR OF TP WITH JUST THE CONVERSION OF PAVEMENT TO BOTH GRASS AND STRUCTURAL TURF FOR THE PARKING AREA. .

INTENDED SEQUENCE
MAJOR COMPONENTS OF THE PROJECT WHICH DISTURB SOILS ARE ANTICIPATED TO OCCUR AS FOLLOWS:
PHASE I (E&S CONTROL MEASURES WILL APPLY TO ALL PHASES OF THE PROJECT)
A. INSTALL EROSION CONTROL MEASURES - SILT FENCE AND INLET PROTECTION.
B. REMOVE TOPSOIL AND STOCKPILE IN AREAS AS DETERMINED IN THE FIELD BASED ON SEQUENCE OF CONSTRUCTION. LOCATIONS SHALL BE APPROVED BY THE CITY OF LYNCHBURG.
C. DEMOLISH AND REMOVE REQUIRED MATERIALS SUCH AS PAVEMENT, SIDEWALK AND CURB AND GUTTER.
D. PERFORM FINAL GRADING, REPLACE TOPSOIL, & PROVIDE PERMANENT STABILIZATION FOR ALL DISTURBED AREAS.

B. EXISTING SITE CONDITIONS
THE EXISTING SITE IS AN OLD ENTRANCE TO THE STADIUM SITE THAT IS NO LONGER IN USE.

C. ADJACENT AREAS
ALL IMPROVEMENTS ARE LOCATED IN THE CITY OF LYNCHBURG AND ARE SURROUNDED BY THE STADIUM SITE TO THE NORTH, AND NAVAL RESERVE STREET TO THE EAST AND SOUTH. IT IS NOT ANTICIPATED THAT THIS PROJECT WILL HAVE ANY IMPACT ON THE ADJACENT AREAS. ALL CONSTRUCTION ACTIVITIES WILL BE CONFINED TO THE PROPERTIES OWNED BY THE CITY OF LYNCHBURG AND WITHIN TEMPORARY CONSTRUCTION EASEMENTS.

D. OFF-SITE AREAS
SURPLUS MATERIAL THAT IS NOT SUITABLE FOR USE AS FILL MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR THOSE LOCATIONS. BORROW MATERIAL IS ALSO ANTICIPATED AND SHALL BE OBTAINED BY THE CONTRACTOR FROM APPROVED SOURCES.

E. SOILS
THE FOLLOWING INFORMATION IS BASED ON THE SOILS MAP FOUND IN THE SOIL SURVEY OF CAMPBELL COUNTY/ CITY OF LYNCHBURG, VIRGINIA. THE SITE SOILS ARE CLASSIFIED AS FOLLOWS:

Campbell County and the City of Lynchburg, Virginia

UL—Urban land

Map Unit Setting

- National map unit symbol: 41nw
- Mean annual precipitation: 34 to 52 inches
- Mean annual air temperature: 46 to 67 degrees F
- Frost-free period: 180 to 220 days
- Farmland classification: Not prime farmland

Map Unit Composition

- Urban land: 100 percent

F. CRITICAL AREAS
CUT & FILL SLOPES ARE MINIMAL IN LENGTH AND SHALL NOT BE STEEPER THAN 2:1. CROSS DRAINAGE IS ALSO MINIMUM DUE TO SMALL DRAINAGE AREAS ASSOCIATED WITH THE PROJECT. THERE ARE NOT ANY CRITICAL AREAS ANTICIPATED.

G. EROSION AND SEDIMENT CONTROL MEASURES
THE CONSTRUCTION-PHASE EROSION AND SEDIMENT CONTROLS SHALL BE DESIGNED TO RETAIN SEDIMENT ON SITE TO THE MAXIMUM EXTENT PRACTICABLE. ALL CONTROL MEASURES MUST BE PROPERLY SELECTED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURERS' SPECIFICATIONS AND GOOD ENGINEERING PRACTICES. IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE PERMITTEE MUST REPLACE OR MODIFY THE CONTROL FOR SITE SITUATIONS. IF SEDIMENT ESCAPES THE CONSTRUCTION SITE, OFF-SITE ACCUMULATIONS OF SEDIMENT MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFF-SITE IMPACTS (E.G. FUGITIVE SEDIMENT IN STREET COULD BE WASHED INTO STORM SEWERS BY THE NEXT RAIN AND/OR POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS). LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES (E.G., SCREENING OUTFALLS, PICKED UP DAILY).

THE FOLLOWING MEASURES WILL BE USED TO CONTROL EROSION AND SEDIMENT-LADEN RUNOFF ON THIS PROJECT. SEE PLAN SHEETS FOR LOCATIONS OF SPECIFIC EROSION CONTROL MEASURES.
1. SILT FENCE WILL BE PROVIDED TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE SITE DURING CONSTRUCTION.
2. TOPSOILING: WILL PROVIDE A SUITABLE GROWTH MEDIUM FOR FINAL SITE STABILIZATION WITH VEGETATION. (VESCH STANDARD AND SPEC. 3.30)
3. TEMPORARY SEEDING: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. (VESCH STANDARD AND SPEC. 3.31)
4. PERMANENT SEEDING: WILL BE USED TO ESTABLISH VEGETATIVE COVER AND TO REDUCE SILT RUNOFF FOR ANY AREAS NOT PAVED OR ROOFED. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. (VESCH STANDARD AND SPEC. 3.32)
5. DUST CONTROL: SHALL BE PROVIDED IN ACCORDANCE WITH VESCH STANDARD AND SPEC. 3.39)

SUPPLEMENTARY E&S STRUCTURES SHALL BE CONSTRUCTED AS REQUIRED BY THE EROSION CONTROL INSPECTOR, OR AS NECESSARY TO ADEQUATELY CONTROL EROSION AND SEDIMENT DEPOSITION. E&S STRUCTURES MAY BE REMOVED ONLY WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE BUT NOT BEFORE THE UPSTREAM/UPSLOPE AREA HAS BEEN STABILIZED.

H. STABILIZATION PRACTICES
1. GENERAL - NO SPECIFIC SCHEDULE OTHER THAN THOSE GUIDELINES GIVEN IN THE ABOVE DESCRIPTIONS OF THE VEGETATIVE PRACTICES WILL BE USED FOR TEMPORARY AND PERMANENT SEEDING MEASURES.

A. CONTRACTOR SHALL PROVIDE A LOG OF ALL MAJOR GRADING ACTIVITIES, ANY CESSATION, TEMPORARY OR PERMANENT, OF CONSTRUCTION ACTIVITY , AND WHEN STABILIZATION MEASURES ARE IMPLEMENTED. THIS RECORD SHALL BE KEPT THROUGHOUT THE DURATION OF THE PROJECT. THE PERMITTEE SHALL ENSURE THAT THESE RECORDS ARE UPDATED, MAINTAINED, AND BECOME A PERMANENT PART OF THIS OVERALL PLAN.

B. CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. STABILIZATION MEASURES SHALL BE IMPLEMENTED ON DISTURBED AREAS AS SOON AS PRACTICABLE. EMBANKMENT WALLS, UPON REACHING FINAL GRADE, MUST BE IMMEDIATELY SEEDED AND FERTILIZED TO ENSURE PROPER STABILIZATION. PERMANENT SEEDING SHALL BE INSTALLED WITHIN 7 DAYS OF REACHING FINAL GRADE. DENUDED AREAS THAT ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR MORE THAN 30 DAYS SHALL BE TEMPORARILY SEEDED. AREAS THAT ARE NOT TO BE DISTURBED MUST BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.

2. PERMANENT STABILIZATION - AFTER THE CONSTRUCTION IS COMPLETED, THE SITE WILL BE PERMANENTLY STABILIZED WITH PERMANENT SEEDING IN ACCORDANCE WITH VESCH STANDARD AND SPECIFICATION 3.32.

I. STORMWATER MANAGEMENT NARRATIVE (QUANTITY AND QUALITY)
THE DISTURBED AREA FOR THE STADIUM GRASS PARKING LOT EXPANSION PROJECT IS 2.29 ACRES. THIS AREA WILL BE REQUIRED TO MEET THE WATER QUALITY MEASURES FOR REDEVELOPMENT. THE WATER QUALITY WILL BE MET BY CONVERTING THE EXISTING PAVED AREA TO A COMBINATION OF GRASS AND STRUCTURAL GRASS PARKING AREA. THIS WILL CREATE AN EXCESS OF 0.09 LBS/YR OF TP. THE STRUCTURAL GRASS AREAS WAS ANALYZED USING A PERMEABLE PAVEMENT OPTION. THE STRUCTURAL GRASS AREA WILL BE CONFINED TO THE DRIVE ISLES. THE REMAINDER OF THE PARKING WILL BE MANAGED TURF.

J. OTHER CONTROLS

1. MATERIALS, GARBAGE, DEBRIS
NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, GARBAGE, AND DEBRIS SHALL BE DISCHARGED TO SURFACE WATERS OF THE STATE. THE PERMITTEE SHALL ENSURE THAT THESE ITEMS ARE NOT LEFT IN A LOCATION WHERE THEY COULD BE TRANSPORTED BY STORMWATER RUNOFF OFF THE SITE.

2. COMPLIANCE WITH STATE & LOCAL WASTE, SANITARY, AND/OR SEPTIC REGULATIONS
NO TEMPORARY SEWER FACILITIES ARE PLANNED FOR THE SITE DURING CONSTRUCTION.

3. EXPECTED CONSTRUCTION AND WASTE MATERIALS
CONSTRUCTION AND WASTE MATERIALS THAT COULD POTENTIALLY BE STORED ON SITE INCLUDE TOPSOIL, FILL DIRT, EXCAVATED MATERIAL, FERTILIZER FOR SEEDING OPERATIONS, FUEL, AND SILT FENCE MATERIAL.

ANY STOCKPILES OF TOPSOIL, EXCAVATED MATERIAL OR FILL DIRT THAT ARE NEEDED SHALL BE SURROUNDED ON THE DOWNSLOPE SIDE BY SILT FENCE. FERTILIZER MUST BE KEPT IN WATERTIGHT CONTAINERS, PREFERABLY IN PORTABLE STORAGE UNITS AND AWAY FROM EXPOSURE TO THE WEATHER, DURING STORAGE ON SITE. CARE MUST BE TAKEN TO MINIMIZE SPILLAGE OF FERTILIZER IF MIXING OPERATIONS ARE REQUIRED TO PREPARE THE FERTILIZER FOR APPLICATION.

IF OVERNIGHT STORAGE OF FUEL IS REQUIRED, THE FUEL STORAGE CONTAINER MUST BE EQUIPPED WITH A FUELING MECHANISM DISABLE DEVICE. TO MINIMIZE THE AFFECT OF ANY POTENTIAL SPILLS, MAINTAIN ALL ON-SITE FUELING OPERATIONS AS FAR AWAY FROM SURROUNDING SURFACE WATERS AND DRAINAGE FACILITIES AS IS PRACTICAL. DAILY INSPECTIONS OF THE FUEL STORAGE CONTAINER MUST BE IMPLEMENTED TO DETECT THE PRESENCE OF LEAKS. THE FUELING OPERATOR SHALL HAVE A SAFE FILL, SHUTDOWN, AND TRANSFER PROCEDURE IN PLACE TO MINIMIZE SPILLAGE DURING FUELING ACTIVITIES. THE OPERATOR MUST MAINTAIN A FULLY EQUIPPED SPILL KIT ON SITE AT ALL TIMES WITH THE STORED FUEL. THE KIT MUST ATLEAST INCLUDE ABSORBENT MATS OR MATERIAL TO CLEANUP ANY SPILLED FUEL. FOR ANY FUEL SPILL ON SITE EQUAL TO OR EXCEEDING 25 GALLONS, IMMEDIATELY CREATE AN APPROPRIATELY SIZED BERM AROUND THE AREA OF SPILLAGE TO MINIMIZE SURFACE MOVEMENT OF THE FUEL. CONTACT LOCAL HAZMAT AUTHORITIES, THE ENGINEER, AND THE REGIONAL DEQ OFFICE AS QUICKLY AS POSSIBLE TO REPORT THE SPILL AND SEEK FURTHER ASSISTANCE WITH SPILL CLEANUP.

CONSTRUCTION MATERIALS THAT COULD BE CARRIED OFFSITE BY STORMWATER (PLASTICS, PAPER, ETC) SHALL BE PICKED UP DAILY AND PLACED IN APPROPRIATE WASTE DISPOSAL CONTAINERS.

K. APPROVED STATE/LOCAL PLANS
THE STORMWATER POLLUTION PREVENTION PLAN IS CONSISTENT WITH AND INTEGRATED WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE PREPARED FOR THIS PROJECT, WHICH HAS BEEN SUBMITTED TO THE APPROPRIATE REVIEWING AUTHORITIES FOR APPROVAL.

L. MAINTENANCE
ALL EROSION AND SEDIMENT CONTROL STRUCTURES AND SYSTEMS SHALL BE MAINTAINED, INSPECTED, AND REPAIRED AS NEEDED TO ENSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED AT LEAST EVERY 14 DAYS AND AFTER EACH RAIN EVENT OVER 0.5 INCHES OF PRECIPITATION. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

1. THE SEEDED AREAS SHALL BE CHECKED EVERY 7 DAYS TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. GRASSED AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.

SPECIFIC REQUIREMENTS RELATED TO INSPECTION AND MAINTENANCE OF EACH EROSION CONTROL MEASURE ARE DISCUSSED IN THE VESCH STANDARDS AND SPECIFICATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL EROSION CONTROL MEASURES TO THE SATISFACTION OF LOCAL REVIEW AUTHORITIES, AS WELL AS THE INSTALLATION OF ADDITIONAL MEASURES AS NEEDED TO ENSURE THAT SEDIMENT-LADEN RUNOFF DOES NOT LEAVE THE SITE.

M. INSPECTION
DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE SHALL BE INSPECTED AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 48 HOURS OF THE END OF A STORM EVENT THAT IS 0.5 INCHES OR GREATER. IN THOSE AREAS THAT HAVE BEEN FINALIZED, TEMPORARILY STABILIZED, OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS, INSPECTIONS SHALL TAKE PLACE AT LEAST ONCE A MONTH.

DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. E&SC MEASURES SHALL BE CHECKED TO SEE THEY ARE OPERATING CORRECTLY. AT ACCESSIBLE DISCHARGE POINTS, INSPECTION SHALL TAKE PLACE TO ENSURE THESE CONTROL MEASURES ARE EFFECTIVE AT PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS. NEARBY DOWNSTREAM LOCATIONS SHALL BE INSPECTED IF DISCHARGE POINTS ARE INACCESSIBLE.

IF EXISTING CONTROL MEASURES OR REQUIRE MODIFICATION OR ADDITIONAL MEASURES, SUCH CHANGES SHALL BE MADE WITHIN 7 CALENDAR DAYS OF THE INSPECTION OR BEFORE THE NEXT ANTICIPATED STORM EVENT, AS IMPLEMENTATION IS PRACTICABLE.

INCLUDE INSPECTION REPORTS OF ALL STORMWATER AND EROSION & SEDIMENT CONTROL MEASURES ALONG WITH ANY REQUIRED ACTIONS AS A RESULT OF INSPECTIONS, WITH THE STORMWATER POLLUTION PREVENTION PLAN. THESE REPORTS SHALL INCLUDE THE NAME AND QUALIFICATIONS OF THE INSPECTOR, DATES OF INSPECTION, MAJOR OBSERVATIONS AND ACTIONS TAKEN IN RESPONSE TO INSPECTIONS. MAJOR OBSERVATIONS INCLUDE THE LOCATION OF DISCHARGE OF SEDIMENT OR POLLUTANT FROM THE SITE. THESE REPORTS SHALL INCLUDE INCIDENTS OF NONCOMPLIANCE. IF THE REPORT DOES NOT INCLUDE ANY NONCOMPLIANCE INCIDENTS, THE REPORT SHALL CONTAIN A CERTIFICATION THAT THE FACILITY IS IN COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN AND PERMIT.

N. NON-STORM WATER DISCHARGES
NO NON-STORM WATER DISCHARGES OTHER THAN THOSE PERMITTED BY THE VPDES GENERAL PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES ARE ANTICIPATED DURING THIS PROJECT.

O. SEQUENCE OF CONSTRUCTION
1. FLAG THE WORK LIMITS. INSTALL SAFETY FENCE AROUND BIORETENTION AREAS, FOR LARGE EQUIPMENT SHOULD NOT BE PARKED OVER OR RUN THROUGH AN AREA INTENDED TO BE USED AS A BIORETENTION BASIN.
2. INSTALL SILT FENCE.
3. COMPLETE SITE CLEARING.
4. ROUGH GRADE SITE, STOCKPILE TOPSOIL.
5. LEAVE THE SURFACE SLIGHTLY ROUGHENED AND VEGETATE AND MULCH IMMEDIATELY.
6. COMPLETE FINAL GRADING FOR PARKING.
7. COMPLETE FINAL GRADING OF GROUNDS, TOPSOIL CRITICAL AREAS, AND PERMANENTLY VEGETATE, LANDSCAPE, AND MULCH.
8. ALL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSPECTED WEEKLY AND AFTER RAINFALL EVENTS. NEEDED REPAIRS WILL BE MADE IMMEDIATELY.
9. EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL RELEASED BY THE GOVERNING AGENCY.
10. AFTER SITE IS STABILIZED, REMOVE ALL TEMPORARY MEASURES AND INSTALL PERMANENT VEGETATION ON THE DISTURBED AREAS.
11. WHEN DEWATERING, MAKE CERTAIN THAT THERE ARE NO SIGNS OF EROSION AT THE DISCHARGE, AND FOLLOW THE METHODS OUTLINED IN THE 1992 VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) DEWATERING SECTION.
12. FINAL LANDSCAPING AND STABILIZATION SHOULD BE PERFORMED ACCORDING TO THE 1992 VESCH LANDSCAPING SECTION.

BELOW ARE THE VIRGINIA EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS. IF PLAN DETAILS AND SPECIFICATIONS ARE MORE STRINGENT, THIEN THEY SHALL SUPERSEDE THE MINIMUM STANDARDS.

MINIMUM STANDARDS (MS-19):
ALL APPLICABLE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS AND MINIMUM STANDARDS SHALL BE ADHERED TO DURING ALL PHASES OF CONSTRUCTION. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

1. STABILIZATION OF DENUDED AREAS:
THE CONTRACTOR SHALL APPLY PERMANENT OR TEMPORARY SOIL STABILIZATION TO BARE AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN DORMANT OR UNDISTURBED FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED AT AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN 1 YEAR.

2. STABILIZATION OF SOIL STOCKPILES:
DURING CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL STABILIZE OR PROTECT SOIL STOCKPILES WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

3. PERMANENT VEGETATIVE COVER
THE CONTRACTOR SHALL ESTABLISH A PERMANENT VEGETATIVE COVER ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVE THAT, IN THE OPINION OF THE COUNTY INSPECTOR, IS UNIFORM AND MATURE ENOUGH TO SURVIVE TO INHIBIT EROSION.

4. TIMING & STABILIZATION OF SILT TRAPPING MEASURES:
SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.

5. STABILIZATION OF EARTHEN STRUCTURES:
THE CONTRACTOR SHALL APPLY STABILIZATION MEASURES TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

6. SEDIMENT TRAPS AND BASINS:
A SEDIMENT BASIN SHALL CONTROL SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES. THE SEDIMENT BASIN SHALL BE DESIGNED AND CONSTRUCTED TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FOR THE LAND DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DEVICE SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.

7. CUT AND FILL SLOPES:
CUT AND FILL SLOPES SHALL BE DESIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

8. CONCENTRATED RUN-OFF DOWN CUT OR FILL SLOPES:
CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME, OR SLOPE DRAIN STRUCTURE.

9. WATER SEEPS FROM A SLOPE FACE:
WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

10. STORM SEWER INLET PROTECTION:
ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

11. STABILIZATION OF OUTLETS:
BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED BY THE CONTRACTOR IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

12. WORK IN LIVE WATERCOURSES:
WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.

13. CROSSING A LIVE WATERCOURSE:
WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX MONTH PERIOD, A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIALS SHALL BE PROVIDED.

14. APPLICABLE REGULATIONS:
ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

15. STABILIZATION OF BED AND BANKS
THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

16. UNDERGROUND UTILITIES:
THE CONTRACTOR SHALL INSTALL UNDERGROUND UTILITIES IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER CRITERIA:
A. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES
C. EFFLUENT FOR DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE PROPERTY.
D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
E. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

17. CONSTRUCTION ACCESS ROUTES:
WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO PAVED SURFACES. WHERE SEDIMENT IS TRANSPORTED ON TO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL LOTS AS WELL AS TO LARGER LAND DISTURBING ACTIVITIES.

18. TEMPORARY E&S CONTROL MEASURE REMOVAL:
THE CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENT.

19. ADEQUACY OF RECEIVING CHANNELS:
PROPERTIES AND WATERWAYS DOWNSTREAM FROM THE DEVELOPMENT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION AND DAMAGE, DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOW RATES OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF 24-HOUR DURATION.

CONTRACTOR SHALL CONTACT MISS UTILITY @ 1-800-552-7001 FOR LOCATION OF ALL UTILITIES, AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

100% PLANS NOT FOR CONSTRUCTION

COMMONWEALTH OF VIRGINIA
LYNETTE L. WUENSCH
Lic. No. 38710
11/01/16
PROFESSIONAL ENGINEER

EPRPC
Traffic · Transportation · Stormwater · Civil
Civil • Stormwater • Traffic • Transportation
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EROSION & SEDIMENT CONTROL NOTES

SCALE	PROJECT	
0 40' 80'	LYNCHBURG STADIUM	4A